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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,955	09/23/2005	Ned P Baudat	U 015625-9	9410
140	7590	11/19/2007		
LADAS & PARRY 26 WEST 61ST STREET NEW YORK, NY 10023			EXAMINER DOERRLER, WILLIAM CHARLES	
			ART UNIT 3744	PAPER NUMBER
			MAIL DATE 11/19/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/523,955

Applicant(s)

BAUDAT ET AL.

Examiner

William C. Doerrler

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3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-133 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 82-106 is/are allowed.
- 6) ☒ Claim(s) 40-48, 50, 51, 53, 54, 56-66, 68-70, 72, 74, 75, 81-116 and 122-133 is/are rejected.
- 7) ☒ Claim(s) 49, 52, 55, 67, 71, 73, 76-80 and 117-121 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2-8-2005</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 53,54,56-59,68-81 and 89-106 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 54 contradicts claim 40, from which it depends. Claim 40 specifies no more than 2 separators, yet claim 54 claims a third separator. Claims 53,57-59,68,69,72,74-81,89-95,97-103,105 and 106 contain discontinuous lettered steps. For example claim 53 contains a step (f), with no claim (e). It is unclear if the (e) limitation from claim 50 is intended to be claimed. The claims not specifically mentioned depend from unclear claims, so they are unclear by association. It is noted that in claim 84, "as portion" should be --a portion--.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 128-133 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 128-133 claim a computer simulation with no change of structure, no output and no precise method steps. Applicant should claim some output, control step produced, or tangible product if a computer simulation is

a portion of the desired claim coverage. As currently written applicants' claims 128-133 do not fit into any of the statutory classes of invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 60-66,68-70,72-75,81 and 122-127 are rejected under 35 U.S.C. 102(b) as being anticipated by Houser et al (6,289,692).

Houser shows a process for liquefying a natural gas stream which cools the stream 122 in indirect heat transfer with a methane containing stream 460 and then separates the cooled stream into a first stream which is compressed (by compressor 462) and a second stream which is further cooled by a methane containing stream (stream 420 is cooled by stream 476). Figure 1 shows the cooling using heavier hydrocarbons in a cascade refrigeration system. In regard to claim 81, see vapor line 606. In regard to claims 122-127, it is noted that these claims are product by process claims. The liquefied natural gas produced by applicants' process will not be any different from any other treated natural gas. Both applicants' process and Houser produce liquefied natural gas that is essentially liquid methane. As the chemical makeup of the gases are seen to be the same, the product, the LNG produced, is seen as the same.

Claims 60-66,68-70, 81 and 122-127 are rejected under 35 U.S.C. 102(b) as being anticipated by Low et al (5,611,216).

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Low et al disclose a method for producing liquefied natural gas with a methane refrigerant (in the cycle containing reference numerals 100-199) a separator 80 which produces a first stream which is compressed in compressor 83 and a second stream 130 that is further cooled. The paragraph beginning in line 29 of column 13 describes the propane and ethane precooling circuits. In regard to claim 81, see vapor line 94. In regard to claims 122-127, it is noted that these claims are product by process claims. The liquefied natural gas produced by applicants' process will not be any different from any other treated natural gas. Both applicants' process and Low et al produce liquefied natural gas that is essentially liquid methane. As the chemical makeup of the gases are seen to be the same, the product, the LNG produced, is seen as the same.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 40-48,50,51,53,54,56-59 and 107-116 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 33 of U.S. Patent No. 6,658,890 in view of Low et al (5,611,216). Applicant's earlier patent claims the same inventive concept, a natural gas liquefier that expands the stream three times and phase separates the stream twice, substantially as claimed with the exception of using propane and ethylene precooling circuits. Low et al show this feature to be old in the natural gas liquefaction art. It would have been obvious to one of ordinary skill in the art at the time of applicant's earlier invention to modify the earlier claims by adding propane and ethylene precooling circuits to enable the expanding stream to produce a large quantity of liquid.

Allowable Subject Matter

Claims 49,52,55,67,71,73,76-80 and 117-121 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 82-106 are allowed.

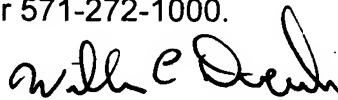
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Newton shows a multi-refrigerant natural gas cooler. Johnston shows a natural gas liquefier which splits the cooled expanded stream.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Doerrler whose telephone number is (571) 272-4807. The examiner can normally be reached on Monday-Friday 6:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


William C Doerrler
Primary Examiner
Art Unit 3744

WCD